

## APR 1 0 2002

## **TECH CENTER 1600/2900**



DATE: 03/22/2002

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/975,719

TIME: 10:11:59

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\03222002\1975719.raw

- 4 <110> APPLICANT: Ausubel, Frederick M. Rahme, Laurence G. 7 <120> TITLE OF INVENTION: VIRULENCE-ASSOCIATED NUCLEIC ACID SEQUENCES AND USES THEREOF 8 10 <130> FILE REFERENCE: 00786/361003 12 <140> CURRENT APPLICATION NUMBER: US 09/975,719 13 <141> CURRENT FILING DATE: 2001-10-10
- 15 <150> PRIOR APPLICATION NUMBER: US 09/199,637
- 16 <151> PRIOR FILING DATE: 1998-11-25
- 18 <150> PRIOR APPLICATION NUMBER: US 60/066,517
- 19 <151> PRIOR FILING DATE: 1997-11-25
- 21 <160> NUMBER OF SEQ ID NOS: 437
- 23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
- 25 <210> SEQ ID NO: 1 26 <211> LENGTH: 42235
- 27 <212> TYPE: DNA
- 28 <213> ORGANISM: Pseudomonas aeruginosa
- 30 <220> FEATURE:
- 31 <221> NAME/KEY: variation
- 32 <222> LOCATION: (1)...(42235)
- 33 <223> OTHER INFORMATION: N is any nucleic acid.

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37	ccggcattgc	caagctcctg	gacgccgacg	agaacaacac	cagtaccgtc	ttcagcggca	120
38	acggcaccag	cttcgggacg	accggaacca	acagcaactc	ggccctcaac	agcatcctct	180
39	ccggcggcgt	cagcgacatc	cggcagtgga	tgaacaagtt	gtacggggag	gccttcgccg	240
40	ccgtctacgt	gcagccaggt	gcgcgggtcg	cagtgcatct	cgatcagcaa	ctggcgatcg	300
41	actatgaact	caagggccgc	aaggtcgatt	acagctctgg	agccgctcat	gcaacagcag	360
42	acttggacta	acccccttct	tcgtctctgc	gccggcctgg	cctgcgcgct	gaccctggca	420
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47	gacctggtga	tgtatgtgtt	cccgcacctg	gccggcagcg	atcccgcccc	ggtaccgggc	720
48	tacaccaccg	tgttcccctt	ctaccagcga	gtccagtacg	ccatgccggg	cgaacgcacg	780
49	gaggactatt	gatgggcttt	tttcaaaccc	ttctgcgcgg	tcgcacacag	cctcagtcgg	840
50	taccggcaga	cgctcccgaa	gattcaggag	cgctggacgt	agcggccgcg	gaagaagcga	900
51	ctgagcgcta	tctggcgcga	ctggccgcca	tgggtattcc	tctgcccaac	accgggagca	960
52	agaatggcgc	cacgcaggcc	gaagcgtcac	gcctctacga	tcacgaccca	tcgttcgtag	1020
53	acctgctgcc	ctgggctgag	tacctgcccg	acgagcaagt	gatgctcctg	gaggatgggc	1080
54	gttcgcgcgc	cgcattcttc	gaactggtgc	ccttgggcac	cgagggccgc	gatcccaatt	1140
55	ggatgcagaa	cgcccgggac	gcattgaaag	aagccctgca	gaactccttc	gacgagcacg	1200

56 aaacctcacc ctggattgtc cagttctacg cccaggacga gatcagctgg gacaatttcc

1260

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\03222002\I975719.raw

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59	acaccgccgt	cagcaagctg	ccctggcgag	gacaacagcg	ccgcgtgcgg	atggtcgtct	1440
60	accgccggat	ccgcaaggag	gatgcgcaga	ttcgcggaca	ggacccggcg	gcgtacctga	1500
61	aatccatctg	cgagcgtatc	caaggcggcc	tggcgaacgc	cggcatcgtc	gcttcgcgca	1560
			aactggttga				1620
63	tcggccaggc	cgaggcggac	ctacgtcgct	tctacgaact	ggtatgccgt	ccggacgaac	1680
			ccactggccg				1740
			gccacccagg				1800
			ttgaacaaag				1860
67			aacgccctgt				1920
68			ccgcaggaca				1980
			caggcctcga				2040
			cacaagctct				2100
			gaggaacgct				2160
			ccgcagaacg				2220
			ccaaacgaga				2280
			aacctgtcgc				2340
			aaccgtggcg				2400
			gcccacggct				2460
			atctgccaga				2520
			ttcggcctgc				2580
			gccccgggct				2640
			cccgaccaag				2700
			agcaaggccg				2760
			cgcctcatga				2820
			agcgccgtcc				2880
							2940
			gtactgaccc				3000
			ccagaacgcc				3060
			gccgacggcg				3120
			gtggatttcg				3120
			tcgctgctga				3240
			gtcaagatca				
			atgaagatca				3300
			atcgacgaca				3360
			ctgaacatgc				3420
			cagaagtcga				3480
			ctggccaagg				3540
			gccatgaccg				3600
			gacgagctcg				3660
			cccttcccca				3720
			tgaattcgct				3780
			aggatgccct				3840
						a tcgtcccgca	3900
101	l gataaagcag	g ctcttggat	g aatggctgca	a acaacatcca	a cagcctgata	a cggcccaaca	3960
102	2 ggcgctcatt	t gaggccgtgg	g accgcgcgg	a gatcctaca	g cggaggcaa	g cgtgagactc	4020
103	3 ttgaagggc	g gctgggcag	c caaacgatt	t caaggtccc	g ccctgccct	g ggcggggctg	4080
104	4 ctgctggtc1	t tgctggctg	c atccgccgta	a ggggtagago	c ttctggtgaa	a gggcctgcca	4140
						a atacgccgac	4200

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\03222002\1975719.raw

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108	caccaggete	gcctggtgga	gtgcgcgggg	atccaaggcg	gcgccaaagc	cttctggagc	4380
109	gctatcgatg	cgatcttcgc	tcagtcggcc	ggcaacgggg	gcgggctgcc	tggcggcaca	4440
110	ttggactttc	ctgaactgga	ccaggctcga	ctggagaaat	gtgcgaaaga	caacgaactt	4500
111	attgactcag	atatcaagtt	ggacatcgac	attgcacggt	cgaagggcat	tacagcgacc	4560
112	ccgaccctcg	tcatccggga	caaccagacg	ggacgaagcg	tgaagcttga	aggcatggcc	4620
113	gacgagacca	cgttgctgtc	ggcgatagac	tggctagcca	aggatctcta	gcgtcgcgcc	4680
114	aagagactct	tggctaagaa	atcggcgagg	attccaacat	ccctcttttg	gtcctccagg	4740
115	atgccctgca	cttcacctgg	cagaacctcg	acctcctccc	catccacaat	ctttaccatt	4800
116	ctcttgtggc	cggagctggt	gaggctaagc	ctcaactcca	ttgccggccg	agcattgatg	4860
117	taaatgctct	cgagcaagcg	ctccatgact	tcgaccactc	cttaatatca	gttagccagc	4920
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119	agcgttcgat	cacggctcga	aaaaatacac	cacctacgag	ttgatgattt	cctgctgccc	5040
120	tatcggaagt	gatcctgtct	gctgtctgta	cctttctaga	accggtacag	acccatgcct	5100
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122	ctgctgagca	gcgcgagtca	ggccgaaacc	tgggtcatca	ccgacaaggc	tcatccggtc	5220
123	tctgccaccg	gatcgtcgcg	cgttctgttt	ctggacgccc	aggaacacct	cgaggagcaa	5280
124	ctgactgcgg	ccttgcccca	ggatccacag	catgctcaag	cggcgtttaa	gcgattgcta	5340
125	caaagccccg	atgggcgccg	cctgcaggca	gagctggtca	aggcacaaca	agacgtcgcc	5400
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127	gtctacggcg	aaccggatgt	ttcgcgcgct	cttgagctaa	tcgccaaggc	caggaggtcg	5520
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131	gcaaagtgaa	gacgtcggtc	aaggtccgcc	actacgtgcc	tgacgcagtc	gtctccagct	5760
132	acgcgaatac	cgggagcaac	ccctggaccg	aggtatcggc	gctgggtaca	ccgaatccac	5820
133	tcgcccaggc	cggcaatgac	gcgaccacaa	actacaaggc	cgagaacagc	atcggccgct	5880
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137	cagggctgcg	cgaggtgggt	ggaatcttct	ccggcgacat	gtgggggaac	ctctatccgc	6120
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139	ccggcgatat	caccacgcga	atcggccagc	tccacgtcta	cctccccatg	cgcgcagccc	6240
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147	cgtcggcttc	ggctggaaca	acgacatgat	gtgcggaaac	atgaacctga	gcaccaccct	6720
148	ggagaaccag	ctcaacggtg	ccacacaggg	tttccagaac	atcatgggct	cagtcatcca	6780
149	gaacgcgacc	ggcgcggtca	tgtcgctgcc	ggcgttgatc	atccagcgcg	cgaaccctca	6840
150	gctctacaac	ctgatcacca	atggcatcct	gcaggcgcgg	atcgactacg	accgctcgaa	6900
151	agggacttgc	aaaacgatcg	ccgaaaagat	ggctgacatc	gctggcgagc	agaccggctg	6960
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153	cgtatccgcc	ctcgaagcag	tggagaagaa	aggcggcaac	gatggcgtaa	cctgggttgg	7080
154	tggagacaag	gccggcggct	ccggccagaa	gcccattcgc	atcgtcaacg	acgtgacccg	7140

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\03222002\1975719.raw

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			cgaagagcaa				7440
			ttacccgcgg				7500
			gcctggcgtc				7560
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			tcgatcagca				7680
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			aggccccctc				7860
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			cctggccatc				8100
			tcggcggatc				8160
			cttccgcacg				8220
			accetecteg				8280
			ttcgcggtgc				8340
			gccgacgagg				8400
			ggctacatcg				8460
			gagttcgacc				8520
			ggctggtcga				8580
			gcgatgatgc				8640
			ggcacggatc				8700
181	cacacatasa	caatccgctg	ctggcacaag	aaatcgctga	tttttccaga	gactgctacg	8760
			ttcatgcggc				8820
			aactggatcg				8880
			aagagtcccc				8940
			ggcggtggtg				9000
			cgtgatcgga				9060
			aaatggttga				9120
			agccaggtca				9180
			aacggcatcg				9240
190	tagacaactt	agcatacttc	ccggcgatgg	atatootco	ccaggcactg	ccgatggtga	9300
191	tatcattcct	ggededecee	atggtcatct	gcattccgat	aatcctaatc	atcoocacct	9360
192	atcaactcaa	anttoccato	acgatgacgg	tcatcttctt	tacaataata	ttcgtcgact	9420
193	tetaattte	attagecara	tatatcgaca	gcacgatact	tgatgctttc	tataattcaa	9480
			aacccagtca				9540
			tctatgttca				9600
			gcagggtctg				9660
			gaagcaggaa				9720
							9780
			agtcccggta				9840
			cttgtgaagt				9900
			ctttaaccaa				9960
			gccacataaa				10020
			cccaacgtag				10020
203	cacaagcata	cccayaccaa	aaccgatccg	yyayycaaag	occurging	eg eg eg eg et	10000

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\03222002\I975719.raw

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                                                                              10200
                                                                              10260
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    207 ggagaccggc cgctatcaga atcgcagcga agtcatccgg gcaggcttgc gcctgctgct
                                                                              10320
W--> 208 gcaacaggaa gcccagatan gcgccaagct cgaaaccctc cgcaacgcaa catccagtgg
                                                                              10380
                                                                              10440
    209 gctgatgcaa ctggagcgcg gcgagtacga cgagatcacc agcgacgaac tggcccaata
    210 cctcgacgag ctcggcaacc aggcgagcca ctgaagcatg gccaagtacc gcatctctca
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                                                                              10620
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    213 acaacaggta ggcagcatca gccgtgaaga actgggagct ggcctgcgca gcatccacct
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    214 cgtttactgc cactcgatgc ccaatgtcgg taaggttgtt cggcccaggc acttcgtctt
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    215 ctaccgggtg gcgacagacc aggtgctaga ggtggttcgc gtgcttcacg acgccatgga
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    216 tgtggatcaa cacctgcccc aacgatgagc aactgtaaca ggagcaaatg gcccaaaggg
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                                                                              10920
    217 gaaatgggct tgaagggcga agggaatggt tcacaagggt aaaagcccta cccgaaaggg
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    218 cctgccggaa ggcagaaagg gctgcgttcg cgccggcgaa cacgaaaagg ctacgggtga
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    220 gcattccccc tgaccaagca tttgcattcg tgctgaccac cgcttgcatg cggctttacc
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                                                                              11160
    221 agtcacaccq tagtcacqac cggctgcagt cgacccaaag cggacctttg tgacagaccg
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    222 aaatcggcca aaagcagacg ctcaaaagca tctacgaaag cagggacaat tccgggggat
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    223 actoctotac gtacgttgct tatatcgcgg aggaattggc tgaaccgcgg tgcggagaga
    224 tctcctcaaa ctgatgggtt gcacgcatat cgaagcagat tacataggag gcttgcgctg
                                                                              11340
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    225 ttcaacaqct cctqaqqqqa cttqggttgc ccatggtttc cacggcccaa tcgttgacgt
    226 cattgacgat tccgctggct ttttcagtac gcatcgcttg gcgctccatt acccagccca
                                                                              11460
                                                                              11520
    227 atgcggcctt gccgttgacc aagcgattcc aaggactgcg atccatgtag ccagccctct
    228 aatgcatgta tgtataggta aggtcgtcgt tatttcggcg tggatgtgct gactggaggt
                                                                              11580
     229 ttagcgtggt gagtcagtat gtcgtgcgct atataagtct catctcggca tccgcacatg
                                                                              11640
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     230 gatgctgtta gattcagcaa gtgggaaaaa gcgcgagcgc taaaaggaaa gctgccggcc
     231 ggcgtgctca gtagcaagct accccggcaa cacttaggaa gaggtgatca tgaagttaca
                                                                              11760
     232 ggcatatcgg ctgcagaact accgccggct gcgcgatgtt gtcatcgagc tcgatgacga
                                                                              11820
     233 aatttctatc tttgtcggtg ccaacaacag cgggaagaca tccgccgtcc aaggcctgta
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     235 ggccgagatc gatgcggtcg gcaggacgcc ccctggcgat gaggatgcgc ccaaaaggtt
                                                                              12000
     236 accetccata ctcttggatc tctggttccg cgtcggtgaa gacgacctcg ccactgcgat
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     237 gtcgctgctg ccgagcactg agtgggacgg caagtgcgtc gggatccggg tagcgttcga
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     238 gcctcgggat gcccacgagc tcgtctggaa gttccatgaa ctacatgaga aggccaacaa
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     239 cgcagctgtc gcgcttgcgg ccaagcgcaa ggccgccggg gagcaagctg tggaggcggg
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                                                                              12300
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     241 cctgacgaag tacctcacaa aggaactgag caaggaatac accttccgct actacgtgct
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                                                                              12480
     243 aggcaaggag ccgggcggtg cagccattct caagtcgctg gtgagggtcg acttcctgcg
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     244 egegeagegg cacctegatg acceagatge eggtagetet gategegeag agagettgte
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     247 tgacaccctc acgcgcctgg ccaagctcgg ctatccgggc gtcaacaatc cggagatcgt
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     248 gattcgggcg gccttggatc cgaccactgt cttggggcaa gacgccaagg ttcactacgt
                                                                              12780
     249 gatcccgggc gtagcttccg cccaactgcc agacagctac aatggcctgg ggttcaagaa
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                                                                              12900
     250 totagtotac atagtagtta agotagtoga cttgcacgag cagtagaaag ccgaggatga
     251 caagcgaget eegetteatt tggtetteat tgaggageet gaggegeate tgeacgegea
                                                                              12960
     252 gatccagcag gtcttcatca ggaacgtttt gcgcctcctt gaggatgcta acgatcacgc
                                                                              13020
```



Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/975,719

DATE: 03/22/2002
TIME: 10:12:01

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\03222002\I975719.raw

```
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:2979 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80
L:3037 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82
L:3090 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84
L:4325 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:121
L:4326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:121
L:4340 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:4341 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:4342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:4344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:4344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:4343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:4836 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:137
L:4837 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:137
L:4838 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:137
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